

## **ABSTRACT**

**[0048]** A sliding correlator for timing synchronization in HIPERLAN/2 and IEEE 802.11a wireless local area networks by correlating the received signal with a known waveform is disclosed. The disclosed sliding correlator avoids the large number of complex multiplications per second, about 320 million by one estimate, by employing an implementation that avoids multiplication operations while also avoiding complexity. This invention discloses methods and apparatus to implement this correlator, using alternative correlator coefficients well suited for digital implementations, whereby the need to perform multiplication is eliminated.